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UI AND UNEMPLOYMENT RATE:

A review of the empirical evidence

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Purpose

The purpose of this brief is to highlight the available research on the subject of unemployment insurance legislative changes and the unemployment rate since 1971.

Main policy messages

History

Between 1940 and 1971 there were gradual changes in the UI program which was originally modest in size and focused on insurance objectives.

- The 1971-72 UI changes represented a substantial expansion and liberalisation of the UI system to include goals of income support and equity relating to the personal and regional distribution of income.

- A number of amendments between 1976-79 partially reversed the liberalisation of the program.

- The trend to reduce UI generosity continued in the 1989-90 and 1993 UI changes. These recent changes have also shifted the focus of UI somewhat away from passive income maintenance to active employment policies such as training and re-employment assistance.

Estimates

Much of the empirical literature focuses on the effect of changes in the UI benefit level, or replacement rate, on the probability of leaving or entering unemployment. Early Canadian studies using aggregate time-series data concluded that the 1971-72 changes to the UI Act (which increased the benefit rate from 43 to 67 percent, among other changes) raised the average duration of unemployment by 1.5 to 2 weeks. This increase of about 20 percent in average duration corresponded to an increase in the unemployment rate in the range of 1 to 1.5 percentage points. Most economists accept the 0.5 to 0.8 percent as the most sensible estimate. Published studies about the size of the 1971-72 effects on the unemployment rate have produced wide-ranging estimates, ranging from 0.3 (Kaliski, 1975) to 1.9 (Meltz and Reid, 1979) percentage points.

There are two recent, unpublished papers that have produced estimates as high as 3.5 percentage points. However, neither of the authors are confident of these very high estimates and are in the process of revising their work. We have examined the estimated equations of these discussion papers and concluded that the estimated figures may be quite inprecise. In one instance, the 3.5 percentage point figure is only one of the many produced by the researcher's model.

Other benefit-related aggregate impacts also have been investigated by economists:

- The more generous UI program resulted in higher labour force participation, especially among groups with lower labour force attachment. This increased the youth and adult female unemployment.

- The increased persistence of aggregate unemployment has been attributed to the 1977-78 revisions to regional extended benefits, which linked increases in the aggregate unemployment rate to the maximum benefit duration in most regions.

- Analysts have concluded that UI benefits contributed to the amount of employment instability. It was found that seasonal fluctuations in employment increased after 1971 for the majority of industries and provinces. Further, the regional extended benefits reinforced the short-term and seasonal nature of much of the employment in high unemployment regions.

- UI may also affect the inter-regional mobility of the labour force. Regional extended benefits, in particular, appeared to retard inter-regional mobility by providing benefits for longer periods in regions with high unemployment.

Limitations of Macro Analyses

Such aggregate analyses provide a useful starting point but they are extremely limited in their ability to shed light on the labour market impacts of UI. These analyses assumed that the impact of UI:

1. can be adequately summarised in terms of the benefit level, without consideration of other key institutional features of the UI program, without due consideration for an undifferentiated UI claimant population; and

2. can be analysed in a simple employment-unemployment framework, with the exception of the very few full system model simulation studies.

The aggregate time-series approach cannot take account of the diversity of individual receipt of UI. The typical practice is to construct very crude measures of average benefits and earnings. This ratio of actual benefits to earnings vary enormously across the population and over time. Only micro-data allow the individual variation in benefit receipt and its relation to earnings to be examined.

There is much more to the operation of a UI program than the level of benefit. Academic economists have paid little attention to how UI actually works. The macroeconomic time-series approach takes the oversimplified view that the only policy choices are benefit levels being traded off against their work disincentive effect in increasing unemployment. This may reflect the fact that aggregate data cannot distinguish between the specific effect of changes in individual program parameters which may be as important as the benefit rate. It has been shown, for example, that estimates of the benefit rate on unemployment duration are highly sensitive to how completely one deals with issues such as disqualification periods. Once the UI system is modelled more carefully, the estimates of the benefit effect become insignificant.

This macroeconomic time-series approach takes a too limited view of the labour market. The majority of aggregate analyses mistakenly assumes that UI affects only employment and unemployment decisions. They represent only a partial picture and do not consider the effect of UI on people leaving the labour force or about their taking marginal jobs. Labour force participation and key UI regulations are integral to only two very dated Canadian studies of full system simulation that we are aware of.

New Work and Coherence

The microeconomic research on the relationship between unemployment insurance and unemployment is theoretically more rigorous than its macro counterpart. More recent research employ different analytical approaches and micro data which allow for more careful testing of UI effects. Three theoretical approaches have dominated the microeconomic research in this area:

1. the neo-classical labour supply model based on income-leisure choices;

2. the job search model; and

3. the dynamic human capital investment model.

Such research is still in the preliminary stages and, like all economic models, subject to qualifications. Nevertheless, these approaches allow the researchers to overcome many of the criticisms of earlier macro-economic analyses.

The present Evaluation of UI Regular Benefits will cover many dimensions that are now absent from the existing literature.

- At the macroeconomic level, a series of dynamic simulations are in progress to gauge the cyclical variations of UI impacts on the economy.

- At the microeconomic level, the component studies identify the potential trade-offs between the insurance (efficiency) and equity objectives of UI by examining the extent to which changes in UI parameters such as the benefit rate, coverage and the entrance requirement affect work behaviour. They focus on the extent to which provisions of UI may influence job duration and contribute to the increasing importance of non-standard employment, by examining the UI effects on types of labour market transitions. The evaluation tests for the existence of "learning effects" in the use of UI and as a source of hysteresis. It examines the productivity of UI job search in terms of search intensity and reservation wage induced by key UI parameters (such as eligibility, time to exhaustion and benefit level), and investigates the effects of these parameters on UI duration, unemployment duration and job outcomes.

- The evaluation investigates employers' respons- es to UI regulations, including temporary layoff and training behaviours. It also examines the issues of UI cross- subsidisation and implicit experience rating that may exist in the UI benefit and premium structures. Firms' characteristics, along with underlying demand and supply forces, are the primary variables for explaining individuals' rate of inflow into and outflow from the UI system.

- The income redistribution impact of UI is estimated over a business cycle, taking into account known behavioural responses to UI. The effect of unemployment on family living standards under the current and alternative UI systems is a key element of the evaluation. To address the issue of the appropriate role of UI in the social security network, the evaluation also examines the relationship between UI, poverty and social assistance within a house- hold context, and the rotation pattern of insured population between UI and social assistance.

After twenty years of theoretical and empirical research, economists have not yet provided policy makers with a convincing answer to the question "Does unemployment insurance increase unemployment"? However, the lesson that emerged from this review is that the question should be placed in some larger perspective concerning the social costs and benefits of UI. It may be more meaningful to ask, as the present evaluation does, whether the UI program has led to more stable and productive work activity, as well as desired distributional and stabilisation effects, even though it appears to contribute to higher unemploy- ment in the short-run. The findings of the evaluation studies will likely provide us with a more credible and satisfactory estimate of the effect of UI on the rate of unemployment in Canada.

"UI and Unemployment: a review of the empirical evidence" is produced by the Insurance Programs Directorate, Evaluation Branch, Strategic Policy.

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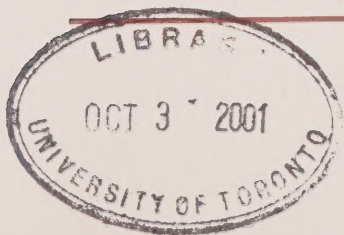
Selected Published Studies of UI Effects on Unemployment

Date/Author	Data type/period	Focus	Measure of UI	UI effects on unemployment
1975 H. Grubel et. al.	Annual 1953-72	aggregate unemployment (UE) rate	ratio of UI benefits to average wages	+ 0.8 percentage points
1975 G. Jump et. al.	2% of Canadian population from UIC historic data base, 1967-70	labour supply simulation	benefit rate net of taxes	+ 0.4 to + 0.6 percentage points (best point estimate is + 0.7)
1975 S. Kaliski	Annual, 1953-72	aggregate UE rate	ratio of UI benefits to average wages net of taxes	0.0, + 0.3 and + 0.5, depending on marginal tax rates assumed
1976 C. Green et. al.	Annual, 1962-73	unemployment and vacancy	ratio of UI benefits to average wages	+ 0.4 to + 0.7 percentage points attributable to 1971 changes
1976 T. Siedule et. al.	Annual, 1953-75	CANDIDE simulation on UE rate	hypothetical: pre-1971 UI system used for post-1971	+ 0.74 percentage points
1977 S. Rea	2% of Canadian population from UIC historic data base, 1965-70	labour supply simulation	ratio of UI benefits to average wages	1971 revisions reduced weeks of work by 4.8%; increased extent of voluntary unemployment but no impact on UE rate
1978 F. Lazar	Monthly, 1966-75	duration and turnover	dummy variable for 1971 changes	+ on aggregate / male duration; + on female turnover
1979 F. Reid et. al.	Quarterly, 1953-75	unemployment and vacancies	transitional dummy variable for 1971 changes	+ 1.9 percentage points (+ 0.7 from higher benefits and + 1.2 from other changes in 1971)
1987 F. Miller	Annual, 1966-83	natural rate of unemployment	ratio of UI benefits to average wages	+ on natural rate of unemployment
1988 A. Burns	Quarterly, 1963-87	aggregate UE rate	UI generosity	no impact
1989 P. Fortin	Annual, 1954-84	natural rate of unemployment	UI generosity	+ on NAIRU
1993 S. Phipps	Since early 1970s	literature survey on labour supply estimates		labour supply is highly inelastic, limited behavioural changes in response to changes in UI; quantity constraints are evident
1993 L. Osberg	Since early 1970s	literature survey of empirical evidence		case studies confirm UI doing what it was intended; micro-econometric evidence lack demand dimensions and subject to sample size variability

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